

In the Claims:

Claims 1 to 11 (canceled).

12. (new) An apparatus for measuring a flow rate of a mass flow of bulk material, said apparatus comprising an impeller wheel (2) in a housing (1), a drive shaft (3) for supporting and driving said impeller wheel (2) with a constant rpm in said housing, whereby said mass flow admitted to said impeller wheel is deflected and a radial and tangential velocity component is imposed on said mass flow, said apparatus further comprising a drive spur gear wheel (11) secured to said drive shaft (3), an intermediate spur gear wheel (21) meshing with said drive spur gear wheel (11), a further drive spur gear wheel (20, 31) meshing with said intermediate spur gear wheel (21), a force measuring device (26) holding the intermediate spur wheel in place, a support sleeve (4) coaxially surrounding said drive shaft (3), said support sleeve reaching into said housing (1) of said impeller wheel (2), said apparatus further comprising separate drive means (19, 32) for rotating said support sleeve (4) with an rpm corresponding to said constant rpm of said drive shaft (3), and a stationary housing section (5) wherein said support sleeve

21 (4) is rotatably mounted.

1 13. (new) The apparatus of claim 12, wherein said support
2 sleeve (4) is constructed as a tube coaxially surrounding
3 said drive shaft (3) for rotatably supporting and guiding
4 said drive shaft (3).

1 14. (new) The apparatus of claim 12, further comprising a two
2 point bearing (14) rotatably mounting said support sleeve
3 (4) in said stationary housing section (5), and sealing
4 means (15) provided at least relative to said housing (1)
5 of said impeller wheel (2), said sealing means (15)
6 preventing penetration by mass particles including bulk
7 material dust.

1 15. (new) The apparatus of claim 12, further comprising a
2 driving mechanism (13) for said support sleeve (4), said
3 driving mechanism being driven by said separate drive means
4 (19, 32) with said constant rpm.

1 16. (new) The apparatus of claim 12, further comprising a first
2 drive train (19) for rotating said support sleeve (4), a
3 second drive train (21) for rotating said drive shaft (3)
4 and a common drive (16, 30) for driving said first and
5 second drive trains, wherein said second drive train for
6 said drive shaft (3) comprises an intermediate spur gear
7 wheel (21), and wherein said first drive train for said
8 support sleeve (4) includes any one of an upper

intermediate spur gear wheel (32), an upper drive spur gear wheel (19), a drive chain, and a gear belt drive.

17. (new) The apparatus of claim 16, further comprising a force transmitting arm (24) and a force measuring device (26) wherein said intermediate spur gear wheel (21) connected to the drive shaft (3), is rotatably mounted on said force transmitting arm (24) which is radially deflectable and which supports itself on said force measuring device (26).

18. (new) The apparatus of claim 12, further comprising a bearing device rotatably supporting said drive shaft (3), said bearing device including any one of a slide bearing (12), a bearing of spring elements (34, 35), and an elastomer bearing for rotatably supporting said drive shaft (3) inside said support sleeve (4), said spring elements (34, 35) and said elastomer bearing being soft against bending in the direction of rotation and stiff against bending in the radial and axial directions.

19. (new) The apparatus of claim 12, further comprising at least one of a rubber bellows seal and a labyrinth seal (33) for sealing said drive shaft (3) relative to said housing (1) of the impeller wheel (2) and relative to said support sleeve (4).

20. (new) The apparatus of claim 17, wherein said force

transmitting arm (24) is rotatably mounted about a pivot point (27), said apparatus further comprising any one of a low friction slide bearing, a ball bearing (25) and a spring element bearing for rotatably mounting said force transmitting arm.

21. (new) The apparatus of claim 20, wherein said spring element bearing comprises at least three vertically arranged leaf spring elements (34, 35) which are connected in a horizontal plane (36, 37) with said drive shaft (3) or with said support sleeve (4).

22. (new) The apparatus of claim 12, further comprising a mounting for said drive shaft (3), said mounting comprising at least two axially spaced spring element bearings (34, 35), and wherein one of said spring element bearings (35) is positioned between a drive spur gear wheel (14) and a spur gear wheel (13) for driving said support sleeve (4).

[REMARKS FOLLOW ON NEXT PAGE]